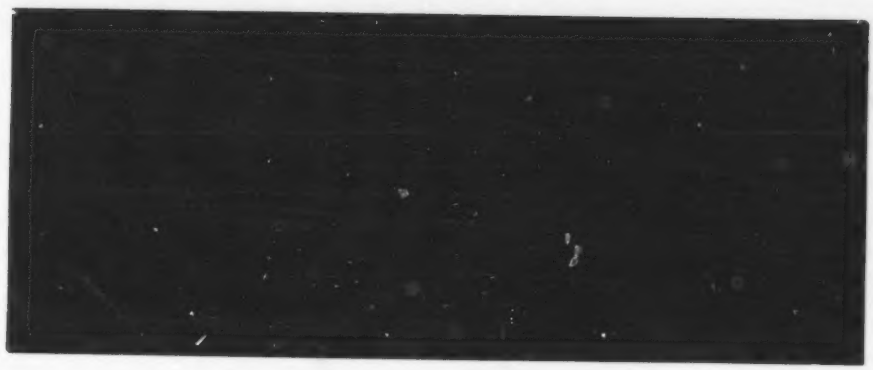
ADF

Saskatchewan
Agriculture
Development Fund

Keeping the agriculture and food industries competitive through Research, Development and Demonstration.

COMPLIMENTS OF
AGRICULTURE DEVELOPMENT FUND



CORN PRODUCTION

D-88-01-0476

FINAL REPORT

D476

Saskatchewan Agriculture

Agriculture Development Fund

Project Information

ADF-D0476 FINAL REPORT

CORN PRODUCTION

1989

CO-OPERATOR FORSEILLE BROTHERS

COMPILED BY LUCIEN FORSEILLE

DATE: FEBRUARY 8, 1990

OBJECTIVE: EVALUATE THREE HYBID CORN VARIETIES FOR ENSILING AS AN ECONOMIC WINTER FEED OPTION IN A COW-CALF TO FINISH OPERATION.

Seed corn was ordered in December of 1988 as it was in short supply as a result of the 1988 drought.

The weed control chemical called eradicane was ordered from local dealer in early February. May 23, 1989 sprayed eradicane at 1.7 L/acre, the chemical was then incorporated using a cultivator with two operations at right angles, the second operation also included the application of anhydrous ammonia at the rate of 60 active lb./acre.

The corn was seeded May 28, 1989, at the rate of 28,000 seeds/acre, with 30 inch row spacing. A John Deer, 6 row press drill was used. It has sidebanding capabilities and was used to apply the 11-51-0 Fertilizer.

The soil tests indicated that fertilizer requirements would be 15 lb. of N. and 15 lb. of P_2O_5 per acre. After being informed that corn required a large amount of N. we applied Anhydrous ammonia at the rate of 60 actual lb./acre, and 11-51-0 was applied at a rate of 60 lb./acre.

This field was devoted to alfalfa production from 1983 to 1987, it was then summerfallowed in 1988.

Manure was also applied in the fall of 1988.

The soil texture is sandy.

The ADF roadside sign was erected by the corn field. As people drove by they were able to observe the corn as it was growing. As the summer progressed the corn looked more and more impressive. In early September it stood 9 feet tall. Many people came to look at the field and questions were answered if there were some.

The chemical weed control program was very effective and very few weeds were observed growing during the first month of crop growth. In mid July some buckwheat started growing.

Three different varieties of Hybrid Corn were evaluated.

1-3957 Pioneer brand Hybrid with 2400 heat units

Moisture content at harvest 77.565%

TOTAL 100% Dry Matter/Acre = 2.059 T.

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This variety grew the tallest and produced almost as much dry matter/acre as 3979.

It was the last to tassel and produced the least amount of grain on the Cobs.

Good potential with this variety if seeded very early and if the growing season is longer than usual.

This would have been a good variety for 1988.

2-3979 Pioneer brand Hybrid 2225 heat units

Moisture content at harvest 75.9

TOTAL 100% Dry Matter Content/Acre = 2.18 T.

This was the best performer of the 3 varieties at our farm in 1989.

The growing season requirements of this variety is in the middle of the two varieties grown with tasseling and corn formation occurring later than 3995 and earlier than 3957.

Of the three varieties this is the variety that we will consider growing in 1990.

3-3995 Pioneer brand Hybrid 2150 heat units

Moisture content at harvest 75.08

TOTAL Dry Matter/Acre = 1.48 T./Acre

This was the variety that produced the least tonnes/acre on our farm. It had the shortest growing season therefore the most grain.

3995 was more advanced right through the growing season, it was the first to tassel the first to develop cobs, etc.

It was also the driest at harvest with a moisture content of 75%.

This variety may be better suited for areas with a short growing season. It was also the shortest variety of the three.

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BUDGET

INPUT COSTS

SEED CORN	2148.64	
ERADICANE	1881.00	
N. FERTILIZER	900.00	
2T 11-51-0	652.00	
PLASTIC	550.00	
SOIL & FEED TESTS	90.00	6,221.64

CUSTOM OPERATIONS COST

HARVESTER	1365.00	
TRUCK	273.00	
PRESS DRILL	375.00	
FUEL FOR CUSTOM EQUIP.	225.00	
LABOR 3.5 MEN X 3 DAYS	308.00	2,546.00

COST OF OPERATIONS

SEEDING, TRACTOR, FUEL, LABOUR	375.00	
SPRAYING	225.00	
INCORPORATION CHEM X Z	750.00	
SOIL PREPARATION	750.00	
FRONT END LOADER	300.00	
TRUCKING 2000 MI. X 1.25/MI.	2500.00	4,900.00

TOTAL COST	**13,667.64**
BENEFITS AFTER HARVESTING 140 COWS GRAZED FROM OCTOBER 16 TO NOVEMBER 3, 1989/.70/DAY/COW	1,666.00
	12,001.64

COST/TONNE OF SILAGE
12,001.64 - 546 T. = $21.98/TONNE

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The corn ran a little low on moisture in some areas of the field by mid August; the signs were evident in areas of the field where possible the soil was more sandy.

Harvesting operations were carried out October 14, 15, and 16, 1989. Harvesting was done with a Hesston Field Queen. One truck was kept busy hauling silage to storage area. Round bales were placed three high to form a pit for storage. 6 ml plastic was placed from the ground up to the top of the pit. The silage was packed and pushed up into the pit with a 125 hp tractor and front end loader. Once the pit was well packed the silage pile was covered with 6 ml plastic.

The corn silage was later fed to livestock along bunk line feeders with a 16 foot BJM mixer wagon which we purchased to do the feeding along the fence line.

The silage was mixed with high moisture barley which was ammoniated and processed and stored in 9 feet X 135 feet 10 ml plastic bags.

The barley is loaded into the mixer wagon with a front end loader, the silage is also loaded in this fashion, the minerals, vitamins, etc., are also added to the mixture.

The protein content of the corn silage on a 100% D.M. basis was 11.57% with TDN at 63% and Calcium, phosphorus as indicated on the Feed Analysis Report.

At the time of writing this report we have already marketed Cull Cows that we placed on feed for a period of 90 days. They averaged 3.25 lb./day, average daily gain which was excellent.

We also have steers and heifers on feed which are gaining a little over 3 lb./day to date.

Our calves on dry feed last year gained 2.5 lb./day.

Our daily gain is now 1/2 lb./day higher than last year.

FINANCIAL STATEMENT:

ADF funds approved: $4,985.00
ADF funds spent: $4,985.00

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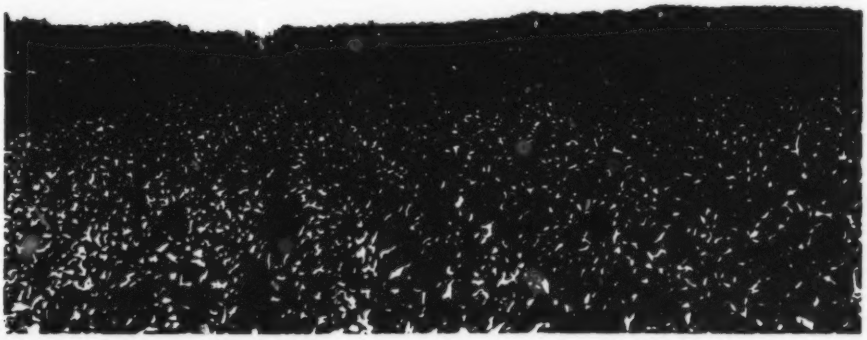
Corn as it started growing
June 11/89

June 25/89

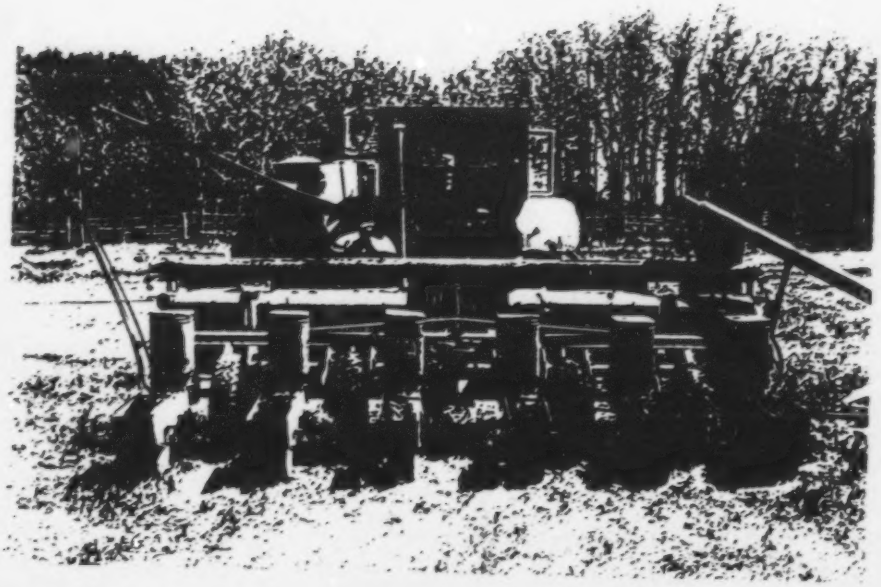
July 9/89



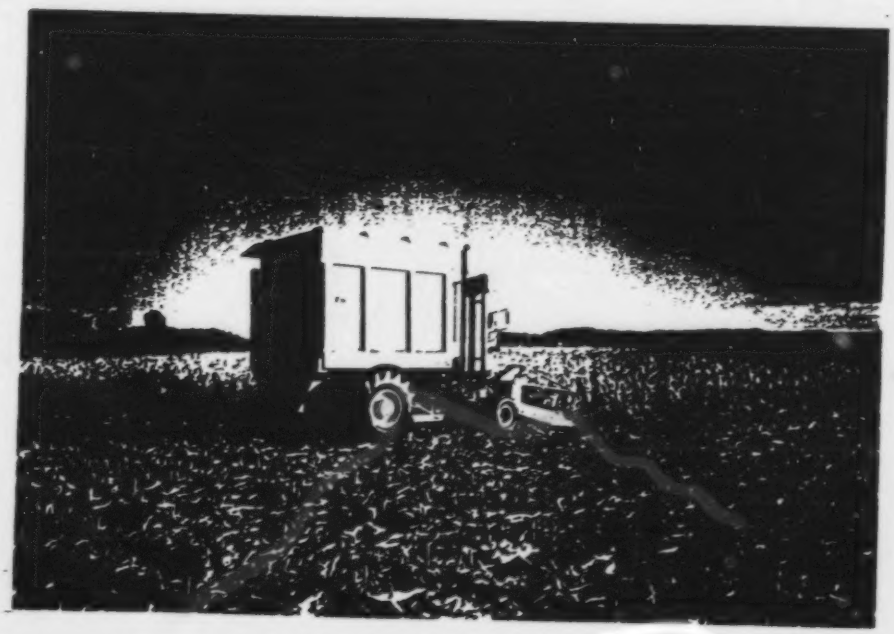
July 23/89

Aq 20/89 NB - 7ft Mark on Stick.
ROXANNE holding stick

Sept 17/89 Corn was in excess of 9ft Tall

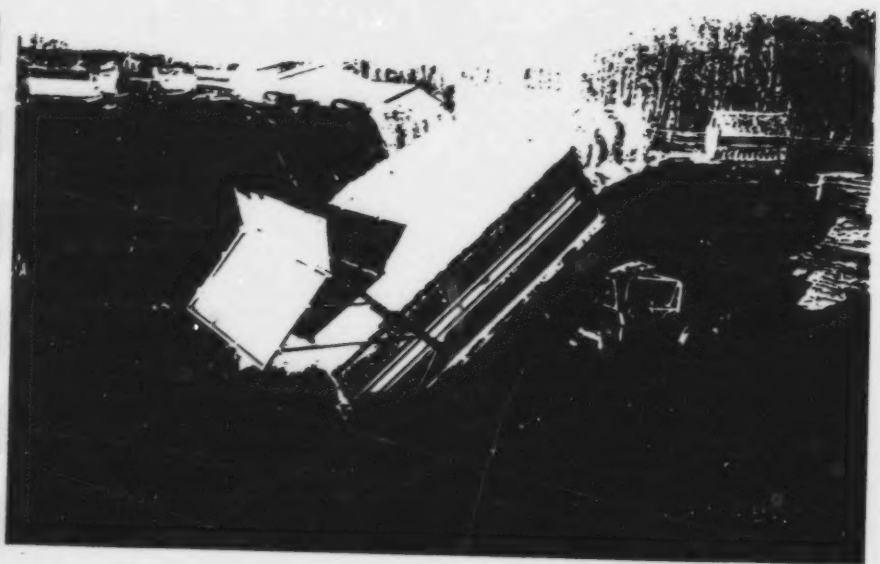


6 row John Deer Drill with 30" Row Spacing
2 Rows of each variety were seeded
with each pass



Hesston Field Queen with 3 row corn head used
in harvesting operation

6 ml Black Plastic was used to line pit
STRAW Bales stacked 3 Bales high



Truck used to haul silage from
Field to Pit

Saskatchewan Soil Testing Laboratory
DEPARTMENT OF SOIL SCIENCE
GENERAL PURPOSE BUILDING
UNIVERSITY OF SASKATCHEWAN
SASKATOON, SASK. S7N 0W0
PHONE 966-6890

SOIL TEST REPORT

N.W 403 29

DATE SAMPLES RECEIVED	LABORATORY NUMBER
19-Apr-89	21904

DATE REPORT PRINTED	TYPE OF TEST
21-Apr-89	COMPLETE

ERLEE AGRO LTD
BOX 189
ROSTHERN, SASK. S0K 3R0

LEGAL LOCATION OF SAMPLED AREA	SOIL ZONE
	Thin Black

FIELD NO.	NO. OF ACRES	CROP TO BE SEEDED ON
99		Stubble

SECTION I

SOIL CHARACTERISTICS

SAMPLE DEPTH (inches)	TEXTURE	pH (Soil Reaction)	SALINITY LEVELS (Conductivity)	RATING
0-6	Loam	8.2	0.6	Non-saline
6-12	Loam	8.4	0.4	Non-saline
12-24	Loam	8.6	0.3	Non-saline

MICRONUTRIENT SOIL TEST LEVELS (LB/Ac; 0-6") - OPTIONAL

BORON (B)	ZINC (Zn)	COPPER (Cu)	IRON (Fe)	MANGANESE (Mn)

SOIL TEST LEVELS OF NUTRIENTS (lb A

NITROGEN (NO_3-N)	PHOSPHORUS (as P_2O_5)	POTASSIUM (as K_2O)	SULPHUR (SO_4-S)
59	33	440	2
27			2
36			3

TOTAL NO_3-N (p.p.m.)	TOTAL SO_4-S (p.p.m.)
122	8

SECTION II

RECOMMENDED FERTILIZER APPLICATIONS (lb Ac of Actual Nutrients)

CROP No.	CROPS TO BE GROWN	NITROGEN (N) Dry	NITROGEN (N) Normal	NITROGEN (N) Wet	PHOSPHATE (P_2O_5)	POTASH (K_2O)	SULPHUR (S)	Assumed Grain Price $ per bus
1	Corn	0	0	15	15	0	0	
2	Spring Wheat	0	0	0	15	0	0	$4.20
3	Canola	0	20	10	15	0	0	$6.80
4	Barley	0	0	0	15	0	0	$2.50

The nitrogen recommended are based on the grain p listed here and fertilizer rate valued at 25 cents per pound of actual N.

If these prices differ greatly y yours, adjustment of the N (based on the expected y increase information given b is suggested.

SECTION III

EXPECTED YIELD INCREASES UNDER NORMAL MOISTURE CONDITIONS (bus per acre)

CROP No.	Due to Phosphate at Rate Recommended Above	Due to Nitrogen Applied at these Rates (lb/Ac of Actual N) 10	20	30	40	50	60	70	80	90	100	120	140	180	22
1		NOT AVAILABLE FOR THIS CROP													
2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
3	1.7	0.4	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0
4	3.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0

These yield increases are averages for your soil zone under good crop management including application of potash and sulphur as recommended.

OTHER RECOMMENDATIONS AND COMMENTS

Samples will be disposed on: 5-May-89

SEE THE REVERSE AND ENCLOSED BULLETIN FOR ADDITIONAL INFORMATION